

HOW DOES

RED MEAT

FIT INTO TODAY'S DIET?



We all expect more from food nowadays.

We want value for money, improved health, maximum nutrition and environmental reassurance, as well as expecting food to be good quality, safe, convenient and, of course, tasty.

IS RED MEAT AS IMPORTANT TODAY AS FOR OUR ANCESTORS?

Red meat is thought to have been a part of our ancestral diet for at least 4 to 5 million years, and is believed to be one of the main factors contributing to our large and well-developed brain. The Paleolithic diet of our hunter-gatherer ancestors is also recognised as protective against the diseases of today. A high protein and low fat intake, along with a positive balance of saturated and unsaturated fats are possible contributory factors. High intakes of antioxidants, vitamins and phytochemicals would also have been protective against disease development, particularly cardiovascular disease.

Today, we still have several physical indicators showing we are designed to eat a mixed diet comprising both animal and plant foods. These include our teeth, gut structure, its composition and enzymic range. With 94% of adult New Zealanders and 95% of Kiwi kids enjoying animal foods as part of a mixed diet, lean red meat remains a central part of a healthy New Zealand diet.



HEALTH OF NEW ZEALANDERS TODAY – HOW RED MEAT FITS

Food and nutrition is a major determinant of health and well-being. It also plays a role in many of the major causes of illness and mortality. These include cardiovascular disease, obesity, diabetes and cancer. Here are the answers to commonly-asked questions about red meat and these conditions:

SHOULD THOSE WITH A HIGH CHOLESTEROL LEVEL EAT RED MEAT?

A number of studies have shown lean red meat can be included in a cholesterol-lowering diet. When trimmed of visible fat, lean red meat is low in total fat. For example, 2 slices of cooked beef topside contains 4.4g fat; a grilled lamb leg steak 4.5g. All beef and lamb displaying the New Zealand Beef and Lamb Quality Mark (shown below) will be trimmed to a maximum 5mm fat, which can be trimmed further before eating. A New Zealand study showed an additional 27% fat can be lost through trimming at home. Intake of fatty meat and meat products should be low for people with heart disease and all visible fat should be trimmed.

Importantly in hypercholesterolaemia, only around half the fat in meat is saturated. A significant amount of New Zealand beef and lamb qualifies for the Heart Foundation Tick (shown below), by having a saturated fat content of 4% or less. The remainder is mainly the beneficial monounsaturated fat plus a small amount of polyunsaturated fats. The polyunsaturated fat contains omega 3 fatty acids similar to those found in oily fish. Although small in quantity compared to fish, contribution to the diet may be significant when relative amounts eaten are considered. In Australia, around 28% of omega 3s comes from beef and lamb. Further information about specific fat types in meat can be found in 'Dietary Fat, Red Meat's Contribution', available from www.beeflambnz.co.nz or freephone 0800 733 466.



New Zealand Beef and Lamb
Quality Mark



Heart Foundation's Tick
CERT TM used under licence

IS LEAN RED MEAT SUITABLE FOR THOSE TRYING TO LOSE WEIGHT?

Lean red meat is low in fat and calories, and suitable as part of a weight-reducing diet. Evidence is accumulating around the important role high-quality protein plays in weight management. For example, protein has been found to suppress food intake more than fat and carbohydrate, as well as contributing to other intake regulatory processes.

Protein also promotes satiety, giving a feeling of fullness, and protects lean body mass during energy restriction. As a key source of high-quality protein, including lean red meat as part of a weight-reducing diet may, therefore, help weight loss.

WHAT ABOUT RED MEAT AND CANCER?

There is no scientific evidence to show eating lean red meat causes cancer. Some scientific studies, however, have suggested a modest association between high levels of red meat consumption and colorectal cancer. Proving a certain food causes a particular disease or illness is very difficult though, as associations between two factors may simply be coincidental.

The causes of cancer are many and complex. Overall eating and lifestyle habits are more important factors than specific foods. Obesity and a lack of physical activity are now acknowledged as the greatest risk factors for diet-related cancers. The most recent recommendation from the World Cancer Research Fund is to consume up to 500g cooked red meat per week; average beef and lamb intakes in New Zealand currently sit below this level at around 400g/week.

The key focus in terms of cancer prevention should be to avoid smoking, limit sun exposure and alcohol intake, maintain a healthy body weight, and be physically active.



WHAT ARE THE NUTRITIONAL IMPLICATIONS OF NOT EATING MEAT?

A meatless diet can be adequate nutritionally but needs careful planning to ensure requirements are met. Iron, zinc, protein and vitamin B₁₂ demand particular attention. Replacing meat with plant-based proteins, such as legumes and pulses will increase intakes of iron and zinc inhibitors, such as phytates. Up to 80% more iron and 50% more zinc will be required by those using these meat alternatives.

Many of those not eating meat at all will be well-acquainted with their increased dietary needs, but those who simply choose to include 'meatless' meals may need individual advice to maximise their use of nutrient-dense red meat.

CURRENT DIETARY GUIDELINES

The Ministry of Health recommends protein foods are eaten by all age groups in New Zealand. These foods include red meat, poultry, fish, seafood and alternatives.

Age group	Number of servings/day
Infants and toddlers	daily from 6 months
Children (2-12 yrs)	≥ 1
Adolescents	1-2
Adults	≥ 1
Pregnant/ Breastfeeding women	≥ 2
Older people	≥ 1

RECOMMENDED SERVING SIZES:

- 2 slices cooked meat (100g)
- ¾ cup mince or casserole
- 120g steak

NATURE'S POWER PACK: KEY NUTRIENTS IN BEEF AND LAMB

Red meat is naturally rich in nutrients. It is a major source of high biological value protein, meaning it contains all the essential amino acids. It is also highly digestible, with around 94% of the protein in meat digested compared with 78% in beans.

Red meat has long been recognised as a key source of iron, largely due to its high bioavailability. On average, 25% of the iron in red meat is absorbed compared to just 5% from plant sources. Whilst these amounts can vary depending on the overall composition of the diet, those who rely solely on plant sources require up to 80% more iron than those eating meat. This increased availability of iron in meat is similar for zinc. New Zealanders obtain the greatest amount of their zinc from red meat. A fact also true of vitamin B₁₂, a water-soluble vitamin only found naturally in foods of animal origin. As well as these key nutrients, red meat contains selenium, omega 3 fatty acids, other B vitamins and vitamin D.

Red meat's unique package of essential nutrients provides 'a lot in a little', making an important contribution to a balanced diet promoting optimal health.



THE IMPORTANCE OF A NUTRIENT-DENSE DIET

With an ever increasing number of food products available to us, do we need nutrient-rich foods? Given the high levels of obesity in New Zealand, it is clear today's diet is far from optimal. Despite the outward signs of over-consumption, high numbers of overweight and obese individuals mask the worrying levels of underlying nutritional insufficiency present amongst the population.

Consumption of high energy-dense, rather than nutrient-dense, foods can lead to increased weight without increased nourishment. Iron deficiency is the most common nutritional deficiency in industrialised countries; New Zealand is no exception. Women and young children are particularly vulnerable, with a surprisingly high number of Kiwi women going short of iron and zinc. Studies in southern New Zealand have shown improved zinc status in women eating red meat. Estimates of iron deficiency amongst New Zealand infants range from 4% with iron deficiency anaemia to 20% with iron deficiency without anaemia. For this reason, the Ministry of Health recommends introducing meat as an early complementary food for infants. Toddlers often fare worse than infants, due to irregular eating patterns and a reduced intake of breast or iron-fortified formula milks. A regular intake of red meat has been shown to prevent a decline in iron stores amongst New Zealand toddlers.

The 2002 National Children's Nutrition Survey also showed vitamin D insufficiency in 31% of 5-14 year olds. Most vitamin D is produced endogenously through the action of sunlight on the skin, but growing scientific debate is throwing the adequacy of this source into question. Foods containing vitamin D are increasingly being seen as an important 'supplement'. Beef and lamb are among the few dietary sources, both providing vitamin D and its active metabolite.

Nutrient-dense foods, such as lean red meat, are therefore a key part of today's diet, giving more nutrition per calorie.



RED MEAT: SPECIAL OCCASIONS TO EVERYDAY MEALS

Turning nutritional recommendations about fat, protein, iron and zinc into quick, convenient, healthy meals is easy with lean beef and lamb. Meals including red meat promote balance as they team up perfectly with grains or potatoes and plenty of vegetables. Both meats are suited to a wide range of cooking methods and available year round, making them versatile and convenient meal solutions. The following recipes show the flexibility of lean red meat using both quick and slow cooking methods.

GOLDEN LAMB CURRY



This dish takes longer to cook, ensuring the spices have time to combine with the meat and vegetables. It offers the flexibility of being cooked on the stove top or in the oven. It would also be suitable for a slow cooker (crockpot)*.

INGREDIENTS - SERVES 4-6

- 1kg boneless lean trimmed lamb, cut into 2cm cubes
- 1-2 Tbsp oil
- 2 large onions, peeled and finely chopped
- 2-3 Tbsp Korma curry paste
- 1 Tbsp grated or minced garlic
- 1 Tbsp grated or minced ginger
- 1 tsp ground cardamom or 3 cardamom pods, crushed
- 1 tsp salt
- 425g can peeled tomatoes in juice, chopped
- 100g glacé papaya, finely sliced (or use sultanas)
- 1½ cups peeled, diced pumpkin
- 1½ cups beef stock or water
- ½ cup plain, unsweetened yoghurt
- 1-2 Tbsp fresh chopped coriander

METHOD

1. Season lamb with salt and pepper. Heat the oil in a large frying pan and brown the meat on all sides. Set aside.
2. Add the onion and cook over a moderate heat until soft and lightly browned. Add the curry paste, garlic, ginger, cardamom and salt and cook for 1-2 minutes until fragrant.
3. Add the tomatoes and juice, papaya, pumpkin and stock or water.
4. Cover and simmer on low heat for 1 hour, stirring often until tender. Alternatively, cook in a casserole in a 160°C oven for 1-1¼ hours. Stir in the yoghurt just before serving. Do not boil. Top with fresh coriander and serve with rice.

* If using a slow cooker, reduce stock or water by half and cook on low for 6-8 hours.

BEEF CASSEROLE



Slower cooking methods are best suited to cheaper cuts of beef and lamb. Here blade or chuck steak is cooked in the oven, offering the perfect cost-saving opportunity to cook some baked potatoes at the same time.

INGREDIENTS - SERVES 6

- 1kg lean beef blade or chuck steak, trimmed and cut into 5cm cubes
- 3 Tbsp oil to pan fry
- 1 large onion, peeled and chopped
- 1 Tbsp minced garlic
- 4 Tbsp flour
- 4 cups beef stock
- Salt and pepper to taste
- 2 cups diced vegetables eg celery, capsicums, carrots, potatoes
- 4 sprigs fresh thyme

METHOD

1. Brown the meat in 2-3 batches with the oil in a heavy-based pan. Transfer to a casserole dish.
2. Fry the onions and garlic gently for 2-3 minutes. Sprinkle over the flour and stir well until the onions and garlic are well coated.
3. Gradually pour in the stock and bring to the boil, stirring well, to make a smooth sauce. Season to taste.
4. Add the diced vegetables and thyme and pour the sauce over the beef and vegetables. Cover and cook in a pre-heated 160°C oven for 1½ to 2 hours or until very tender. Serve with baked, boiled or mashed potatoes.

**MORE BEEF AND LAMB
RECIPE IDEAS CAN BE FOUND AT
WWW.RECIPES.CO.NZ**

BEEF STEAKS WITH WARM VEGETABLE AND COUSCOUS SALAD



Cooking a steak is fast and simple. Combining it with couscous, a quick, easy alternative to rice and pasta, makes this an ideal midweek meal when time is short.

INGREDIENTS - SERVES 4

- 4 Quality Mark beef steaks (fillet, sirloin or rump), trimmed
- 1-2 Tbsp olive oil
- Salt, pepper and pinch of garlic powder
- 1 cup boiling water or stock
- 1 cup couscous
- 1 red onion, peeled and sliced*
- 8 mushrooms, sliced*
- 1 red capsicum, sliced*
- ¼ cup vinaigrette
- Chopped parsley to taste
- 2 Tbsp pesto

*Or your favourite seasonal vegetables.

METHOD

1. Pour the water or stock over the couscous, fluff with a fork to separate the grains, cover and stand for 5-10 minutes.
2. Rub oil on the steaks and season with a little salt, pepper and garlic powder, then lightly oil the vegetables.
3. Heat a barbecue or heavy-based pan and cook steaks 3-5 minutes per side or until cooked to your liking. Set aside in a warm place to rest, and barbecue or grill the vegetables.
4. Fluff the couscous again and add vegetables, vinaigrette, parsley and pesto. Serve with the steaks.

SPICY VEGETABLE AND LAMB STIR-FRY



Stir-fry makes another easy meal and because it's so quick, it's best to have everything ready before starting.

INGREDIENTS - SERVES 4-5

- 400g lean trimmed lamb for stir-frying
- 1 each red and yellow pepper, cut into strips
- 1 small long thin aubergine, finely sliced lengthwise or 200g mushrooms sliced*
- 1 bunch broccolini or broccoli, separated into florets*
- 200g asparagus or green beans, trimmed*
- 300g can baby corn, well drained
- 2 tsp each minced garlic and ginger
- 4 green chillies, deseeded and sliced
- ½ cup black bean sauce
- 1-2 Tbsp sweet soy sauce
- ½ cup beef stock
- 1-2 tsp cornflour

*Or your favourite seasonal vegetables.

METHOD

1. Heat a dash of oil in a wok and stir-fry all the vegetables until they are tender but still crisp and then stir in the garlic, ginger and green chillies and cook until just fragrant. Set aside.
2. Add the lamb to the pan and cook quickly over a high heat so the lamb browns. This is best done in two batches to avoid stewing the lamb.
3. Return the vegetables to the pan with the black bean sauce, sweet soy sauce and stock mixed with the cornflour. Cook until the sauce just thickens. Serve quickly over boiled rice garnished with cashews if wished.

SAFETY AND SUSTAINABILITY: KEY PARAMETERS IN NEW ZEALAND'S RED MEAT PRODUCTION

Almost all beef and lamb produced in New Zealand comes from animals grazed on pasture, thanks to New Zealand's climate and landscape. Much of the commentary about the sustainability of livestock production is based on the intensive systems overseas, which require grain for feed. Most of the land used for livestock in New Zealand is unsuitable for crops, making pastoral farming a highly sustainable alternative. Although greenhouse gas emissions from agriculture have been increasing, levels from the beef and sheep sector have decreased. New Zealand's economy is dependent on the environment to support agriculture. Policy initiatives are being implemented to ensure the industry remains economically viable and environmentally sustainable well into the future.

Hormonal growth promotants are only used under strict veterinary supervision in less than 1% of New Zealand livestock. Antibiotics are used sparingly for therapeutic reasons only. When used, treated animals are recorded and withheld from market for a specified period of time.

Beef and lamb farmers are diligent guardians of the land and promoters of animal wellbeing, providing healthy and nutritious food while protecting New Zealand's most precious assets - its land and the animals which graze upon it.



'THE ROLE OF RED MEAT IN A HEALTHY NEW ZEALAND DIET'

Beef and Lamb New Zealand recognises the important role beef and lamb play within a healthy balanced diet. One of our fundamental principles is striving to ensure all our nutrition messages are based on robust science, having undergone rigorous scientific scrutiny. The information in this brochure is based on the reference report, 'The Role of Red Meat in a healthy New Zealand diet', written by independent nutritionist, Amanda Johnson, BSc (Hons), MSc, PG Dip Diet. Copies of the peer-reviewed, fully-referenced report are available from Beef and Lamb New Zealand, freephone 0800 733 466 or visit www.beeflambnz.co.nz